What is claimed is:

1. A path search circuit in a CDMA cellular system, comprising:

an antenna having a plurality of elements;

a plurality of radio receivers for frequency-converting radio frequency signals received respectively by the elements of the antenna into respective baseband signals;

a plurality of A/D converters for converting the respective baseband signals into digital data;

a plurality of correlation processors for calculating cross correlations between the digital data converted from the baseband signals and a signal known at a reception side, and outputting respective correlation signals;

a weighted-mean-value processor for weighting and adding the correlation signals output from said correlation processors based on indicated weighting coefficients, and averaging the weighted and added correlation signals for a predetermined number of times;

a correlation peak detector for detecting at least one peak from the weighted and averaged correlation signals output as delay profiles from said weighted-mean-value processor, and outputting a reception level and reception timing corresponding to the detected peak as a reception level and reception timing of a reception path; and

a weighting controller for controlling said weighting

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coefficients to determine a directivity of said antenna and
generating a plurality of weighting coefficients to
establish a plurality of general antenna directivities for
dividing a sector where a mobile terminal with which to
communicate is present, when a communication session
starts.

2.   A path search circuit according to claim 1,
wherein said weighted-mean-value processor comprises:
a first memory for temporarily storing the correlation
signals output from said correlation processors;
as many second memories as the number of antenna
directivities to be established, for storing interim
calculated results of the weighted and added correlation
signals for the respective antenna directivities; and
processing means for multiplying the correlation
signals read from said first memory by the weighting
coefficients indicated by said weighting controller, adding
the multiplied correlation signals into a sum signal,
determining the power of the sum signal, updating the
interim calculated results stored in said second memories
based on the determined power, averaging the updated
interim calculated results for a predetermined number of
times to obtain weighted means of correlation values, and
outputting the obtained weighted means as delay profiles.

3.   A path search circuit according to claim 2, wherein said weighted-mean-value processor further comprises an interpolation filter for sampling again the weighted correlation signals at a frequency higher than a

5   sampling frequency of said A/D converters to increase a sampling rate.

4.   A path search circuit according to claim 1, wherein said weighting controller comprises means for generating combinations of weighting coefficients for establishing an antenna directivity in a plurality of

5   directions in which a party to communicate with is possibly present, when the communication session starts, and reducing the number of combinations to be generated during the communication session so as to be smaller than the number of combinations to be generated when the

10   communication session starts.

5.   A path search circuit according to claim 2, wherein said weighting controller comprises means for generating combinations of weighting coefficients for establishing an antenna directivity in a plurality of

5   directions in which a party to communicate with is possibly present, when the communication session starts, and reducing the number of combinations to be generated during the communication session so as to be smaller than the

number of combinations to be generated when the
communication session starts.

6.   A path search circuit according to claim 3,
wherein said weighting controller comprises means for
generating combinations of weighting coefficients for
establishing an antenna directivity in a plurality of
directions in which a party to communicate with is possibly
present, when the communication session starts, and
reducing the number of combinations to be generated during
the communication session so as to be smaller than the
number of combinations to be generated when the
communication session starts.

7.   A path search circuit according to claim 1,
wherein said weighted-mean-value processor further
comprises means for averaging the power of said correlation
signals according to a moving average method.

8.   A path search circuit according to claim 2,
wherein said weighted-mean-value processor further
comprises means for averaging the power of said correlation
signals according to a moving average method.

9.   A path search circuit according to claim 1,
wherein said weighted-mean-value processor further

comprises means for averaging the power of said correlation signals according to a method of generating an exponentially weighted mean in time with forgetting coefficients.

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10. A path search circuit according to claim 2, wherein said weighted-mean-value processor further comprises means for averaging the power of said correlation signals according to a method of generating an exponentially weighted mean in time with forgetting coefficients.

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